

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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SUBJECT **Use in Microspectroscopy of Klystrons Manufactured by VEB Funkwerk Erfurt** DATE DISTR. **28 June 1955**

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. The central laboratory for tube development at VEB Funkwerk Erfurt, under the direction of Dr. Ing. Heinze (fmu), has produced a number of klystrons for wavelengths of 3 and 2.5 cm. which have been supplied to the Physics Institute of Jena University for use in centimeter-wave-length spectroscopy.
2. Attempts have been made to produce klystrons for even shorter wave lengths, but these have so far been unsuccessful for purely mechanical reasons.
3. However, it has been possible to produce shorter wave lengths by means of a process of frequency multiplication. The 3-cm. wave-length signal is fed into a hollow conductor, where it is made to strike a very small detector, the special characteristics of which cause the frequency to be multiplied. This three-or four-fold multiplication causes a substantial drop in the resultant output, which is only a few hundredths or thousandths of a watt, but in centimeter-wave-length spectroscopy this is acceptable, because appropriately sensitive receivers can be built without difficulty.
4. The Physics Institute's current work in this sphere is limited to the measurement of the absorption spectra of gases, first of ammonia and, thereafter, of various hydrogen chloride compounds.

Comment. As received. It is possible that the laboratory was producing klystrons as a result of an order received from Dr. Ing. Rudolf Heinze, Head of the Planning Department of the Main Administration for Radio and Telecommunications (HV RPT) of the Ministry for General Machine Construction.

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